

WHAT IS CLAIMED IS:

1. A method of individually controlling reverse data rates in a mobile communication system including mobile stations (MSs) for transmitting reverse data and changing reverse data rates based on rate control bits (RCBs) received from a base station (BS), and the BS for controlling the reverse data rate of the MSs, the method comprising the steps of:

generating a global RCB indicating one of a rate increase and a rate decrease to all of the MSs within the BS and transmitting the global RCB to the MSs; and

10 generating dedicated RCBs indicating one of a rate increase and a rate decrease for individual MSs among the MSs and transmitting the dedicated RCBs to the individual MSs, respectively.

2. The method of claim 1, wherein the global RCB and the dedicated RCBs are time-multiplexed prior to transmission.

3. The method of claim 1, wherein the global RCB and the dedicated RCBs are code-multiplexed prior to transmission.

20 4. The method of claim 1, wherein the MSs are grouped into a predetermined number of groups and a different global RCB is transmitted to each of the groups.

5. The method of claim 1, wherein the global RCB is determined according to a total capacity of the BS.

6. The method of claim 1, wherein the dedicated RCB for each of the individual MSs is determined according to a data rate and an interference level of the MS.

30 7. An apparatus for individually controlling reverse data rates in a mobile communication system including mobile stations (MSs) for transmitting reverse data and

changing reverse data rates based on rate control bits (RCBs) received from a base station (BS), and the BS for controlling the reverse data rate of the MSs, comprising:

5 a controller for generating a global RCB indicating one of a rate increase and a rate decrease to the MSs within the BS according to a total capacity of the BS and for generating dedicated RCBs indicating one of a rate increase and a rate decrease for individual MSs among the MSs according to the data rates and an interference level of the MSs; and

10 a transmitter for transmitting the global RCB to the MSs and transmitting the dedicated RCBs to the respective individual MSs.

8. The apparatus of claim 7, wherein the transmitter time-multiplexes the global RCB and the dedicated RCBs prior to transmission.

9. The apparatus of claim 8, wherein the transmitter includes a position controller for determining positions of the global RCB and the dedicated RCBs in time multiplexing.

10. The apparatus of claim 7, wherein the transmitter code-multiplexes the global RCB and the dedicated RCBs prior to transmission.

20 11. The apparatus of claim 7, wherein the transmitter comprises a power controller for setting the global RCB to a power enabling the global RCB to reach the MSs, and setting each of the dedicated RCBs to a power enabling the dedicated RCB to reach an individual MS corresponding to the dedicated RCB.

25 12. The apparatus of claim 10, wherein the transmitter comprises a global RCB transmitter for transmitting the global RCB in code multiplexing and a dedicated RCB transmitter for transmitting the dedicated RCBs in time multiplexing.

30 13. The apparatus of claim 12, wherein the global RCB transmitter comprises:

a gain controller for multiplying the global RCB by a gain to assign a power to the global RCB enabling the MSs to receive the global RCB;

a spreader for Walsh-spreading the gain-controlled global RCB and orthogonally scrambling the Walsh-spread global RCB; and

5 an RF (Radio Frequency) transmitter for upconverting a frequency of the scrambled signal to an RF signal and transmitting the RF signal to the MSs.

14. The apparatus of claim 13, wherein the global RCB transmitter further comprises a repeater for repeating the global RCB a predetermined number of times and
10 outputting the repeated global RCBs to the gain controller.

15. A method of determining a reverse data rate in a mobile station (MS) that transmits data to a base station (BS) and receives a global rate control bit (RCB) and a dedicated RCB from the BS, comprising the steps of:

15 increasing a maximum reverse data rate if both the global RCB and the dedicated RCB indicate a rate increase;

decreasing the maximum reverse data rate if both the global RCB and the dedicated RCB indicate a rate decrease; and

20 maintaining the maximum reverse data rate if the global RCB and the dedicated RCB are different.

16. The method of claim 15, wherein the step of increasing the maximum reverse data rate comprises setting a rate limit that is set by the BS as the maximum reverse data rate, if the maximum reverse data rate exceeds the rate limit.

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17. An apparatus for determining a reverse data rate in a mobile station (MS) that transmits data to a base station (BS) and receives a global rate control bit (RCB) and a dedicated RCB from the BS, comprising:

30 an RF (Radio Frequency) module for downconverting a frequency of an RF signal received from the BS and despreadsing the downconverted signal;

an RCB position calculator for calculating positions of the global and dedicated RCBs and outputting RCB position information;

a demultiplexer for extracting the global RCB and the dedicated RCB from the despread signal according to the RCB position information; and

5 a controller for receiving the global RCB and the dedicated RCB from the demultiplexer, increasing a maximum reverse data rate, if both the global RCB and the dedicated RCB indicate a rate increase, decreasing the maximum reverse data rate, if both the global RCB and the dedicated RCB indicate a rate decrease, and maintaining the maximum reverse data rate if the global RCB and the dedicated RCB are different.

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18. The apparatus of claim 17, further comprising a combiner for combining global RCB symbols and dedicated RCB symbols received from the demultiplexer into the global RCB and the dedicated RCB, separately, if the BS repeats the global RCB and the dedicated RCB prior to transmission to the MS.

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19. A method of determining a reverse data rate in a mobile station (MS) that transmits data to a base station (BS) and receives a global rate control bit (RCB) and a dedicated RCB from the BS, comprising the steps of:

20 increasing a maximum reverse data rate if one of the global RCB and the dedicated RCB indicates a rate increase; and

decreasing the maximum reverse data rate if one of the global RCB and the dedicated RCB indicates a rate decrease.

20. The method of claim 19, wherein the MS neglects the dedicated RCB if
25 the dedicated RCB is not assigned for the MS.